

University of Mines and Technology, Tarkwa

Design and Implementation Of A Student Online Voting System

Synopsis

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Problem Statement

The use of ballot papers and thumbprint to collect votes from voters is an old system no longer considered effective due to several flaws (Bellis, 2000). A major challenge with the existing manual voting system used to manage tertiary institutional elections is that it may not be trustworthy, is prone to inconsistencies and election malpractices which leads to questions about reliability of the results declared. Another challenge with the existing system is the high cost in the production, transportation, storage and disposing of the ballot papers and boxes. The election process usually attracts low turnout of students because most students are involved in various hectic academic activities, some stay off-campus, others may be unaware of candidates and their policies while the rest may be uninterested in waiting in long queues to vote.

To address the aforementioned challenges, this project proposes an effective user-friendly online voting system for tertiary institutions. In particular, students will be required to register online with their unique student identification numbers and

password. At the time of voting, they can then log-in with their details to cast in their votes. They will be presented with the candidates, the positions they are vying for and a brief summary of their policies. After the elections, the system allows students to view results of the elections. This eliminates manual effort used in counting of votes and automatically tallies election results (Anand and Divya, 2012) and visualizes election results. Additionally, the system automatically prevents multiple voting by setting vote status in the database to check if a voter has already voted.

Project Objectives

The main objectives of this project is to design and implement a web application which is able to:

1. encourage participation of a higher number of students in the election process
2. ensure credibility by preventing double voting
3. provide an interface where students can view the policies of candidates

Methods Used

The methods to be used for the project include:

- review of relevant literature
- consulting students
- client side: CSS3,HTML5,JavaScript
- server side: PHP
- database: MySQL

Expected Outcome

The proposed student online voting system would allow students to vote online and ensure that no student can vote multiple times.

Facilities and Resources Needed For This Project

- UMaT library online resource
- Github
- Xamp
- MySQL
- HTML,CSS, PHP and Javascript programming languages
- Visual Studio Code
- Internet
- Laptop

Scope of Work

This project work is designed to enable students vote online. It will use student ID and password and other credentials of user to register students. The project is limited to a voting system of a college or university. The design will cover some authentication and security issues.

Project Organization

This project is categorized into five chapters where Chapter 1 will consist of the problem statement, methods and facilities to used. Chapter 2 will also comprise a review of the relevant literature related to the project topic. Chapter 3 goes on to discuss the methodology and designs used in the project. The implementation details of the project are discussed in Chapter 4. Chapter 5 contains a summary of the findings of the project, the limitations and recommendations.

References

Anand, A. and Divya, P. (2012), ‘An efficient online voting system’, *International Journal of Modern Engineering Research* **2**(4), 2631–2634.

Bellis, M. (2000), ‘The history of voting machines’, *online article*],(November 1998)[cited January 29 2004], Available at: <http://inventors.about.com/library/weekly/aa111300b.htm> .

Name of Student

Signature.....

Name of Supervisor.....

Signature.....

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Asiedu Solomon

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1 ABSTRACT

The word "Vote" means to express one's preference for a candidate from a list, to elect or to determine. In most current voting systems used by students, voting is performed by using a ballot paper and thumbprint. This is a time consuming process and involves manual effort. It might also lead to the possibility of invalid votes and unfair results due to rigging. The inconveniences in the manual voting process coupled with academic load and time pressures leads to a problem of general apathy of students towards the election process. Students are not willing to wait in long queues and it usually results in a low student turn out for the elections.

This project aims at creating an online application through which the voting process is made easier. In the system, the administrator can add candidates, upload their pictures and policies. The student registers with their unique student numbers, password and email. On email verification, students will be sent a unique voter ID. At the time of voting the student logs-in with the unique voter ID. This prevents impersonation and multiple voting from one student. The students can then view the results of the election.